

AMENDMENTS TO THE CLAIMS:

The following listing of claims will replace all prior versions and listings of claims in the application.

Claims 12 and 17 to 19 have been amended.

Claims 20 to 22 have been withdrawn without traverse.

Listing of Claims:

Claims 1-11 (cancelled).

Claim 12 (currently amended): A method of packaging leaky fuel rods for at least one of transport and long-duration storage and very long-duration warehousing, each leaky fuel rod containing pellets of fuel material in tubular cladding closed at ends of the tubular cladding and presenting a sealing defect, and the leaky fuel rods being deposited in a first step underwater in a pool, the method comprising:

making available a plurality of capsules, each for receiving a single fuel rod and comprising a tubular sheath and two end plugs, at least one of the two end plugs configured to be removable;

placing a loading structure in the pool, in a disposition enabling the loading structure to receive at least one capsule of the plurality of capsules with a axis vertical;

securing on an open top end of the loading structure a device for loading a fuel rod into the capsule;

taking the leaky rods one by one from an intermediate storage arrangement in which the leaky rods coming from at least one fuel assembly have been placed, and inserting them one by one into empty capsules in the loading structure, the capsules being in a vertical position in a loading location vertically beneath an opening of the loading device, and then for each of the capsules that is to receive a defective rod;

unscrewing a plug of the capsule situated at a capsule top end, inserting a defective rod into the capsule via a guide device placed at the opening of the loading device, and screwing the plug at the top end of the capsule back into place; and

placing the capsule containing the defective rod in a location of a support structure; and

transporting and storing defective rods inside capsules placed in the support structure.

Claim 13 (previously presented): The method according to claim 12, wherein the loading structure comprises a frame for receiving the capsules, the frame comprising a handling top nozzle and a bottom nozzle both extending transversely, the nozzles being assembled to each other by longitudinally-extending tie-bars, together with a plurality of transversely-extending spacer plates distributed in the longitudinal direction of the loading structure and each comprising an array of openings, each serving to pass and hold a respective capsule, some having engaged therein the assembly tie-bars of the frame of the loading structure, the structure including a first location for loading capsules in the vicinity of a corner of the cross-sections of the square-shaped loading structure.

Claim 14 (previously presented): The method according to claim 13, wherein the loading structure further comprises a second location in which the bottom nozzle of the loading structure includes an opening for receiving a closure plug at the bottom end of a capsule, the location having placed therein a peg projecting into the loading structure, wherein the bottom plugs and the top plugs of the capsules are pierced axially by respective channels having respective channel-closure valves located therein and urged towards a closed position by respective helical springs, the open end of the channel in the top plug including an arrangement for connection to a duct for feeding inert gas, and wherein after a faulty rod has been inserted in a capsule and the top plug has been screwed back onto the capsule in the loading first location, the capsule is transferred to the second location for filling with inert gas, the bottom plug of the capsule is inserted into the corresponding housing of the bottom nozzle, so that the projecting peg lifts the valve of the bottom plug into the open position, and an inert gas under pressure, is delivered into the inlet end portion of the channel in the top plug, so as to open the valve of the top plug and then fill the inside space of the capsule with inert gas, the water and the gas contained in the capsule being expelled through the channel in the bottom plug, the delivery of inert gas being stopped after the inside space of the capsule has been filled, so that the closure valve of the top

plug recloses, with the defective rod then being stored inside the capsule in an atmosphere of inert gas under pressure.

Claim 15 (currently amended): The method according to claim 13, wherein the support structure for the capsules in which the capsules containing defective rods are transported and stored over long duration is constituted by the loading structure itself.

Claim 16 (previously presented): The method according to claim 12, wherein the support structure for capsules containing defective fuel rods is constituted by at least one of a transport and a storage container including at least one location for receiving at least one of a loading structure and a capsule.

Claim 17 (currently amended): ~~A~~The method according to claim 12, wherein the support structure comprises a warehousing arrangement containing at least one case having substantially a shape and dimensions of a fuel assembly for receiving a plurality of capsules and closable by sealed covers.

Claim 18 (currently amended): ~~A~~The method according to claim 17, wherein a sealed barrier is constituted around each of the defective rods by at least one of the capsules containing the rod and a case containing the capsule.

Claim 19 (currently amended): ~~A~~The method according to claim 17, wherein the warehousing arrangement is designed to receive at least one loading structure in place of the case.

Claim 20 (withdrawn): A packaging device for implementing a method providing packaging leaky fuel rods for at least one of transport and long-duration storage and very long-duration warehousing, comprising:

a loading structure for loading leaky rods into capsules, the structure having a loading location for loading each capsule with a defective rod, and a filling location for filling each capsule with an inert gas;

a guide and holder device having a positioning arrangement for positioning the device on the loading structure;

a support structure for supporting the capsules for at least one of long-duration storage and for very long-duration warehousing; and

a tool for handling and filling the capsules.

Claim 21 (withdrawn): A device according to claim 20 wherein:

the loading structure has a shape and dimensions of a fuel assembly and comprises a top nozzle and a bottom nozzle assembled together by tie-bars extending in a longitudinal direction relative to the nozzles that extend in a transverse direction, a plurality of spacer plates in transverse dispositions distributed along the longitudinal direction of the loading structure and a peg for actuating a valve disposed in a channel passing through a bottom plug in each capsule, the peg being located in a filling location;

the loading device comprises a centering plate provided with an arrangement for positioning the loading device on the loading structure, first and second openings passing through the centering plate, and a clamping arrangement for clamping a capsule inserted in the loading structure in the loading location, together with a guide bell suitable for being placed on the centering plate at the first opening; and

the tool for handling and filling capsules comprising an outer tube shaped to be engaged on a shaped top plug of a capsule so as to be constrained to turn together with the top plug that can be screwed to and unscrewed from a body of the capsule, and an inner tube for feeding gas that is suitable for connection to a channel passing through the top plug of each capsule.

Claim 22 (withdrawn): A device according to claim 20, wherein the loading structure has a plurality of storage locations for capsules and constitutes the support structure for capsules.